

MEMORANDUM OF UNDERSTANDING

BETWEEN

**THE UNITED STATES NATIONAL OCEANIC AND
ATMOSPHERIC ADMINISTRATION**

AND

**THE METEOROLOGICAL SERVICE OF CANADA
OF ENVIRONMENT CANADA**

ON

**COOPERATION IN ENVIRONMENTAL DATA
ACQUISITION AND UTILIZATION**

BACKGROUND

National Oceanic and Atmospheric Administration (NOAA)

NOAA of the Department of Commerce is responsible for the development and management of operational environmental satellite systems and information services in the United States. The mission of NOAA is to provide and ensure timely access to global environmental data and information services from satellites and other sources, to promote, protect, and enhance the U.S. economy, security, environment, and quality of life.

To fulfill its responsibilities, NOAA:

- Operates geostationary and polar-orbiting operational environmental satellites;
- Operates the NOAA National Data Centers;
- Provides data and information services including Earth system monitoring;
- Performs assessments of the environment;
- Provides operational global, regional, and tactical scale sea ice analyses and forecasts; and
- Conducts related research.

The systems and information services operated by NOAA provide critical satellite observations and information products for short-term weather forecasting and long-term climate monitoring worldwide. The NOAA systems, operating in coordination with other international programs, are key elements of the global infrastructure for environmental monitoring and prediction.

The Meteorological Service Of Canada (MSC) of Environment Canada (EC)

MSC is the unit of the Canadian federal Department of the Environment (Environment Canada) responsible for weather and climate information in Canada. The mandate of the MSC is to enhance public safety and informed decision making by:

- Being Canada's official source for weather warnings;
- Serving as the principal Canadian scientific authority for standards, information and advice on the past, present and future states of the atmosphere and related elements of the hydrosphere and cryosphere;
- Leading and fostering the development of atmospheric science and evolving activities in atmospheric and related environmental prediction in Canada.

To fulfil its responsibilities, the MSC:

- Monitors the atmosphere and Canadian waterways to provide weather forecasts and warnings of extreme weather events and hazardous air quality;
- Forecasts ice and wave conditions on oceans and navigable inland waters;
- Monitors and predicts the state of the climate; and
- Conducts research in atmospheric science and related environmental prediction.

The MSC employs a wide variety of surface, atmosphere and satellite-based data collection systems for environmental monitoring, including both Canadian and international assets. In addition, the MSC researches and develops new data collection technologies and environmental prediction techniques.

INTRODUCTION

National Oceanic and Atmospheric Administration (NOAA) and Meteorological Service of Canada (MSC) of Environment Canada hereinafter called "the Participants";

RECALLING the extensive, long-standing and fruitful cooperation among the various affiliated organizations of NOAA and the MSC in numerical weather prediction, climate services and Earth observation, and the promotion of safe navigation and commerce;

UNDERSTANDING that natural phenomena such as weather and hydrologic basins cross national boundaries between the United States and Canada;

RECOGNIZING that collaboration on the Participants' respective requirements in these fields holds great potential for improved service, mutual support and cost savings;

CONFIRMING the desire of NOAA and MSC to cooperate in environmental data acquisition and utilization, and other areas as mutually determined;

Set forth their understandings as follows:

PARAGRAPH 1

SCOPE OF ACTIVITIES

1.1 Purpose of Memorandum of Understanding and Legal Effect

The purpose of this Memorandum of Understanding (MOU) is to recognize the long-standing cooperation between the Participants, enhance current cooperative efforts, and to supply a mechanism through which future efforts can be facilitated. This improved cooperation is desirable:

1. To enhance and maximize program capabilities in both countries;
2. To encourage joint efforts to resolve common problems; and
3. To promote compatibility in the collection, analysis, archival, and dissemination of data so that the data can be readily accessed, analyzed, and integrated as desired.

This MOU is not binding on either Participant and is not intended to create any obligation under international law.

1.2 Scope of Activities

The Participants have identified a number of areas of mutual interest for potential cooperation pursuant to this MOU, including but not restricted to:

1. Shared Environmental Data and Products;
2. Data Analysis and Dissemination;
3. Data Management, Archive and Retrieval;
4. Infrastructure Utilization and Cooperation;
5. Applications Development and Scientific Research; and
6. Education, Training and Outreach.

PARAGRAPH 2

STRUCTURE AND GOVERNANCE

The Participants intend that the programs and activities undertaken pursuant to this MOU be structured and governed as follows:

2.1 Structure

a. The terms and conditions for specific activities identified by the Participants to be of mutual interest and to be undertaken as joint cooperative programs pursuant to this MOU, should be described in Implementing Arrangements (IAs), to be annexed to this MOU. All IA's should be consistent with and subject to this MOU.

b. Each IA should, in turn, have a Program Implementation Plan (PIP) that describes the detailed work plans to meet the objectives of the activity. PIPs are to be attached to each IA and reviewed and updated as required for the successful completion of the activity. Program Working Groups or Ad Hoc Working Groups may be set up under a PIP to address specific issues or tasks.

2.2 Governance

The Participants intend to establish a Cooperation Steering Committee (CSC) for monitoring and coordinating activities under this MOU. The plan for the CSC is to be composed of an equal number of representatives from each Participant, with specific membership to be designated by each Participant. The CSC is expected to monitor the activities under this MOU and to provide guidance to the Participants to maximize the MOU's benefits. The CSC is authorized to approve the addition or removal or amendment of Annexes to the MOU. All changes to the Annexes are to be documented in writing and all Annexes should contain a specific reference to this MOU. The Terms of Reference for the CSC are attached as Annex 1 to this MOU. The Participants expect the CSC to meet at regular intervals at a frequency to be established by the Terms of Reference.

2.3 Implementing Arrangements

IAs are expected to provide:

1. Specific detail on the nature and scope of activities to be undertaken;
2. The individual and joint responsibilities of the Participants and their designates; and

3. Any other provisions as may be required consistent with the provisions of this MOU.

Each IA should establish a Project Coordination Committee (PCC) for coordination, facilitation and oversight of the activity (ies) under it. The Participants intend that the PCC be made up of equal membership designated by the Participants. The PCC should meet at least annually to review and approve work plans and to initiate new efforts as appropriate. Specific Terms of Reference for the PCC should be developed at the first meeting and adopted by the Participants.

2.4 Program Implementation Plans

The Participants intend to develop a PIP for each cooperative program implemented pursuant to this MOU. The PIP constitutes a work plan for a specific program, providing, as appropriate for the project:

1. The joint management structures and points of contact;
2. A strategic plan to refine and advance the project's specific objectives;
3. A work breakdown structure that identifies, as appropriate, technical specifications, operational requirements and procedures;
4. Detailed requirements and delivery schedule related to the provision of any equipment, data, software, services or facilities;
5. A list of deliverables and project milestones; and
6. The procedures for change requests or change proposals to the PIP.

2.5 Order of Precedence

Any IA or PIP is to refer to, be consistent with and be subject to the provisions of this MOU. In the event of a conflict between the provisions of an IA, PIP, and this MOU, the provisions of the document highest on the list below prevail:

1. The MOU
2. The IA
3. The PIP

Nothing herein is intended to conflict with current NOAA or Environment Canada directives. If the provisions of this MOU are inconsistent with existing directives of either of the Participants entering into this MOU, then those portions of this MOU which are determined to be inconsistent are deemed to be invalid, but the remaining provisions and conditions not affected by the inconsistency continue in effect. At the first opportunity for review, as provided for in Paragraph 8.1 of the MOU, all necessary changes should be accomplished either by an amendment to this MOU or by concluding a new arrangement, whichever is deemed expedient to the interest of both Participants.

PARAGRAPH 3

FINANCIAL ARRANGEMENTS

3.1 Funding

The Participants are responsible for funding their respective activities under this MOU, unless otherwise agreed in writing by the signatories or their designees. The responsibilities of the Participants under this MOU and any IA's are subject to the availability of appropriated funds.

3.2 Contracts or Other Exchange of Funds

Funding arrangements for the majority of activities under this MOU should follow the provisions of Paragraph 3.1. However, the transfer of funds between the Participants or the issuance of joint contracts is permitted in support of specific projects where it is deemed to be the most efficient or beneficial arrangement for the successful execution of the activity. Any contracts or other exchange of funds required for activities conducted pursuant to this MOU or any IA is to be consistent with the national laws and regulations of the Participants.

PARAGRAPH 4

WAIVER OF LIABILITY

4.1 Liability

The Participants do not intend to make any claims or bring actions against each other for injury, damages or financial losses arising out of activities pursuant to this MOU. The Participants intend to extend this waiver to their contractors, subcontractors, and customers requiring them to refrain from bringing claims against the other Participant and its contractors, subcontractors, and customer arising out of activities pursuant to this MOU. Each Participant is expected to bear any third party liability it may suffer as a result of damage it may have caused in connection with or as a result of this MOU.

PARAGRAPH 5

TRANSFER OF TECHNICAL DATA AND GOODS

5.1 Transfer of Technical Data and Goods

The Participants expect to transfer only the technical data (including software) and goods necessary to fulfill their respective responsibilities under this MOU, as provided in this Paragraph. The Participants should endeavor to facilitate the licensing for export, as required, all technical data (including software) and goods necessary to fulfill their respective responsibilities under this MOU, in accordance with the following provisions:

5.1.2 Purpose of Transfer and Marking of Data and Goods

The transfer of technical data for the purpose of discharging the Participants' responsibilities with regard to interface, integration, and safety will normally be made without restriction, except as required by national laws and regulations relating to export control, or the control of classified data. If design, manufacturing, and processing data and associated software, which is proprietary but not export controlled, is necessary for interface, integration, or safety purposes, the transferred data and associated software should be appropriately marked.

5.1.3 Handling of Export Controlled and/or Proprietary Data and Goods

All transfers of proprietary technical data and export-controlled goods and technical data are subject to the following provisions. In the event a Participant finds it necessary to transfer goods which are subject to export control or technical data which are proprietary or subject to export controls, and for which protection is to be maintained, such goods are to be specifically identified and such technical data is to be marked with a notice to indicate that they are to be used and disclosed by the receiving Participant and its related entities (e.g., contractors and subcontractors) only for the purposes of fulfilling the receiving Participant's responsibilities under the programs implemented by this MOU, and that the identified goods and marked technical data should not be disclosed or re-transferred to any other entity without the prior written permission of the furnishing Participant. The receiving Participant intends to abide by the terms of the notice, and to protect any such identified goods and marked technical data from unauthorized use and disclosure, and also intends to obtain these same assurances from its related entities prior to the transfer.

All goods, marked proprietary data, and marked or unmarked technical data subject to export control, which are transferred under this MOU, are to be used by the receiving Participant exclusively for the purposes of the programs implemented by this MOU.

Nothing in this Paragraph requires the Participants to transfer goods or technical data contrary to national laws and regulations relating to commercial licensing, export control, or control of classified data.

5.1.4 Customs Clearance

In accordance with its national laws and regulations, each Participant intends to endeavor to facilitate free customs clearance and waiver of all applicable duties and taxes for equipment and related goods necessary for the conduct of activities pursuant to this MOU.

5.2 Entry of Personnel

In accordance with its national laws and regulations, each Participant intends to endeavor to facilitate the provision of the appropriate entry and residence documentation for the other Participant's personnel who enter, exit, and reside within its territory in order to conduct activities pursuant to this MOU.

PARAGRAPH 6

INTELLECTUAL PROPERTY RIGHTS

6.1 Invention and Patent Rights

Nothing in this MOU is intended to be construed as granting or implying any rights to, or interest in, patents or inventions of the Participants, institutions acting on their behalf, or their contractors or subcontractors for activities conducted pursuant to this MOU. In the event of joint undertakings conducted pursuant to this MOU that result in inventions or patents, the Participants intend to conclude separate arrangements to provide for appropriate and equitable protection of intellectual property rights.

PARAGRAPH 7

DATA POLICY

7.1 Data Exchange

The Participants intend to exchange data with each other on a full and open basis in support of the activities under this MOU. For the purpose of this MOU this means data are to be exchanged without charge except as agreed to cover costs of reproduction and delivery.

7.2 Related Bilateral or Commercial Activities

The Participants should ensure, to the extent possible, that data sharing is an integral component of any bilateral or commercial data acquisition activity in support of programs conducted pursuant to this MOU.

7.3 Third Party Access

The Participants should endeavor to ensure the broadest possible third party access to data and products resulting from programs conducted pursuant to this MOU.

PARAGRAPH 8

EFFECTIVE DATE AND DURATION, AMENDMENTS, ANNEXES, AND TERMINATION

8.1 Effective Date and Duration

This MOU will come into effect as of the date of the last signature to this MOU. In order to accommodate the long lead times for the development of satellite programs and related research, this MOU will remain in effect for ten years and may be amended or extended by decision of the Participants. The Participants should review this MOU at least once every three years to determine whether it should be revised, renewed, or terminated.

8.2 Amendments

This MOU may be amended at any time by written decision of the Participants.

8.3 Annexes

IAs may be added to this MOU in the form of Annexes. Each Annex is subject to the approval of the Cooperation Steering Committee. Annexes may be removed from the MOU by the Cooperation Steering Committee on the recommendation of the parties of the Annex, or by decision of the Cooperation Steering Committee.

8.4 Termination

This MOU may be terminated by decision of the Participants or by either Participant providing 180 days written notice to the other Participant or at such time as the MOU is no longer feasible or necessary as decided by the Participants. In the event that the MOU is terminated each Participant is solely responsible for the payment of any expenses it has incurred.

PARAGRAPH 9

RESOLUTION OF DISAGREEMENTS

9.1 Resolution of Disagreements

Should disagreement arise on the interpretation of the provisions of this MOU, that cannot be resolved at the operating level, the area(s) of disagreement should be stated in writing by each Participant and submitted to officials of both Participants at an appropriate level for consideration and resolution.

Signed, in duplicate, at Silver Spring, MD this 22nd Day of April, 2003.

FOR THE UNITED STATES
NATIONAL OCEANIC AND
ATMOSPHERIC
ADMINISTRATION:

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